

MTSM/MTSF

3-Piece, Metal to Metal



Rod Ends Industrial/ Commercial

Suitable for many higher precision motion control applications, the Tuthill MTSM/MTSF Series offers a metal to metal rod end design.

The ball is produced from bearing quality steel that is thru hardened and finish ground, adding to its precision fit and increased wear performance. The body is produced from low carbon steel and the raceway is machined from heat-treated alloy steel. Both are zinc plated for extended corrosion resistance. Its clear chromate finish is suited for high visibility exposed surfaces requiring "aesthetically pleasing" bright metal finish. It can be used in a wide range of operating temperatures. Studded and right or left-handed thread versions are available. Grease fittings are optionally available.

The MTSM/MTSF Series is just one of many within our broad line of industrial/commercial rod ends. For full product line detail, contact us for a comprehensive catalog or visit www.tuthill.com and download individual product data sheets and other product information.



Description:

MTSM/MTSF
Industrial/Commercial Rod Ends
3-Piece, Metal to Metal

Applications:

Higher precision motion control devices/applications, including:

- Wide range of industrial equipment
- Racing

Features:

- 3-piece low carbon metal to metal design, our cost effective model in precision rod end series
- Precision spherical bearing insert allows for optimum contact between the ball and race extending the product life
- Can be used in a wide range of temperatures:
-65°F — 250°F
(-54°C — 121°C)
- Offered in studded and right or left-handed versions
- Custom assemblies can be built to your specifications
- Meets SAE spec J1120

Other Related Products:

- MTSM-T/MTSF-T Industrial/Commercial, 3-Piece, PTFE Lined

MTSM/MTSF

3-Piece, Metal to Metal

Material

Ball

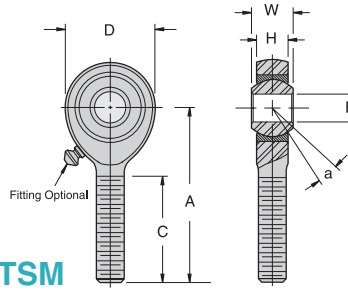
- 52100 Steel
- Rc 56 Min.
- Hard Chrome Plated

Body

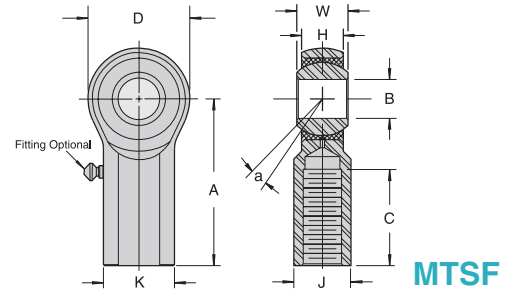
- Low Carbon Steel
- Zinc Plated, Clear Chromate Treated

Race

- Alloy Steel, Heat Treated
- Zinc Plated, Clear Chromate Treated



MTSM



MTSF

MTSM CHART

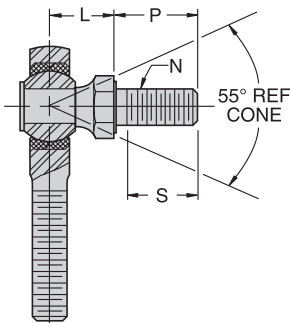
Part Number		B +0.0025 -0.0005	W +0.000 -0.005	H ±0.015	A ±0.015	D ±0.010	REF	C +0.062 -0.031	UNF-3A	a°	Ultimate Radial Static Load Capacity (Pounds)	Approx. Weight (Pounds)
Right Hand	Left Hand	Ball Bore	Ball Width	Housing Width	Centerline Length	Head Diameter	Ball Diameter	Thread Length	Thread Size	Misalign Angle		
MTSM3	MTSML3	.1900	.312	.250	1.250	.625	.437	.750	10-32	13	1,169	.028
MTSM4	MTSML4	.2500	.375	.281	1.562	.750	.500	1.000	1/4-28	16	2,158	.043
MTSM5	MTSML5	.3125	.437	.344	1.875	.875	.625	1.250	5/16-24	14	2,784	.072
MTSM6	MTSML6	.3750	.500	.406	1.938	1.000	.719	1.250	3/8-24	12	3,915	.112
MTSM7	MTSML7	.4375	.562	.437	2.125	1.125	.812	1.375	7/16-20	14	4,218	.160
MTSM8	MTSML8	.5000	.625	.500	2.438	1.312	.937	1.500	1/2-20	12	6,660	.249
MTSM10	MTSML10	.6250	.750	.562	2.625	1.500	1.125	1.625	5/8-18	16	7,364	.382
MTSM12	MTSML12	.7500	.875	.687	2.875	1.750	1.312	1.750	3/4-16	14	11,518	.602
MTSM16	MTSML16	1.0000	1.375	1.000	4.125	2.750	1.875	2.125	1 1/4-12	14	43,541	2.127

MTSF CHART

Part Number		B +0.0025 -0.0005	W +0.000 -0.005	H ±0.015	A ±0.015	D ±0.010	K ±0.010	J ±0.010	REF	C +0.062 -0.031	UNF-2B	a°	Ultimate Radial Static Load Capacity (Pounds)	Approx. Weight (Pounds)
Right Hand	Left Hand	Ball Bore	Ball Width	Housing Width	Centerline Length	Head Diameter	Shank Diameter	Wrench Flat	Ball Diameter	Thread Length	Thread Size	Misalign Angle		
MTSF3	MTSFL3	.1900	.312	.250	1.062	.625	.406	.312	.437	.500	10-32	13	1,531	.038
MTSF4	MTSFL4	.2500	.375	.281	1.312	.750	.469	.375	.500	.687	1/4-28	16	2,539	.059
MTSF5	MTSFL5	.3125	.437	.344	1.375	.875	.500	.437	.625	.687	5/16-24	14	3,133	.092
MTSF6	MTSFL6	.3750	.500	.406	1.625	1.000	.687	.562	.719	.812	3/8-24	12	3,915	.152
MTSF7	MTSFL7	.4375	.562	.437	1.812	1.125	.750	.625	.812	.937	7/16-20	14	4,218	.198
MTSF8	MTSFL8	.5000	.625	.500	2.125	1.312	.875	.750	.937	1.062	1/2-20	12	6,660	.329
MTSF10	MTSFL10	.6250	.750	.562	2.500	1.500	1.000	.875	1.125	1.375	5/8-18	16	7,364	.477
MTSF12	MTSFL12	.7500	.875	.687	2.875	1.750	1.125	1.000	1.312	1.562	3/4-16	14	11,518	.723
MTSF16	MTSFL16	1.0000	1.375	1.000	4.125	2.750	1.625	1.500	1.875	2.125	1 1/4-12	14	43,541	2.125

Chart notes: 1. For standard lubrication fitting, add "Z" to suffix. Example: MTSM10Z 2. This series is also available in a studded configuration. Specify by adding "S" to suffix. Example: MTSM10S

Studded Dimensions



Rod End Bore Size	L REF	P ± .030	S Min. Thread Length	N Thread Size UNF-2A
3/16"	.437	.438	.375	10-32
1/4"	.469	.563	.500	1/4-28
5/16"	.531	.688	.594	5/16-24
3/8"	.625	.875	.781	3/8-24
7/16"	.844	1.062	.937	7/16-20
1/2"	.875	1.125	1.000	1/2-20
5/8"	1.000	1.125	1.000	5/8-18
3/4"	1.187	1.812	1.625	3/4-16

Product Selector Guide

- Rod Ends — Industrial/Commercial
- Rod Ends — Precision/Heavy Duty
- Spherical Bearings
- Ball Joints
- Swivels
- Clevises/Safety Fasteners/Pins

Linking Motion & Control...
The Tuthill Solution



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www.tuthill.com

• Please refer to the Warning statement and appropriate installation usage information in the Tuthill Technical/Application Data brochure
• For application assistance/technical questions, please contact (tltgtech@tuthill.com) or phone (260-749-5105)